

Work Environment Determinants of Innovative Work Behaviour: Study of Malaysian Small and Medium Enterprises in Three Selected Cities

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ABSTRACT

Innovative work behaviour reflects the individual's ability to adapt effectively to the job by modifying themselves or the work environment through innovation. In a work environment where innovation is encouraged and valued throughout the whole organization, employees will have plenty of possibilities to observe people that successfully engage in innovative work behaviour. In this regard, the work environment can support or discourage the employees to apply their newly acquired knowledge and skills. This paper aims to measure the level of the work environment and innovative work behaviour of SMEs employees. The paper also analyzes the influence of work environment on innovative work behaviour. The result is based on data collected through self-administrated survey of 254 employees (92.5 percent responded) at micro and small scale enterprises in the manufacturing sector at three selected cities in Malaysia. The results showed that the work environment is high. However, the level of innovative work behaviour is moderate. The regression analysis showed that the leadership, facilities, risk taking and firm are significantly on innovative work behaviour. In contrast, an empowerment and reward not significant on innovative work behaviour. Thus, this study is important for a firm to improve the quality of employee and innovation capacity.

Keywords: employees, work environment, innovative work behaviour, quality, innovation

1. INTRODUCTION

An awareness of the various parties Malaysia about the needs of entrepreneurs who are able to produce international standard and high-skilled employees. However, work environment in SMEs that do not support and do not meet the needs of the major limiting factors for their innovation. Most SMEs face difficulties in attracting and retaining employees as remuneration are considered low and the rewards and benefits that are not equivalent (SME Corp. Malaysia 2012). In this regard, the work environment in SMEs should be emphasized.

According to Delaney and Huselid (1996) and Huselid (1995), the performance of the organization is dependent on the skills and abilities and motivation of employees. This illustrates the importance of the work environment for employees to innovate. This is because the performance seen on three types of individual behaviour of the control, adaptive and proactive impact on individuals, groups and organizations (Griffin et al., 2007). This situation shows that the contributions of skilled and motivated employees are influenced by the way in which the work is structured (Nazlina et al.,

2011). Hornsby and Kuratko study (1990; 2003) found that employees who are motivated and skilled will determine the ability of small firms to achieve competitive balance in the current business environment. Furthermore, Rauch et al. (2005) and Pfeffer (1998) noted that human resources management plays a role in improving changes in the development of small-scale enterprises

Therefore, to motivate employees, employers can encourage their employees to work efficiently, reward, merit-based promotion system employees and other types of incentives that support the interests of employees (Nazlina et al., 2011). This article deals with the question of what level of work environment and innovative work behaviour in SMEs? Does the work environment contribute to the formation of innovative work behaviour? Evaluation of the influence of the work environment is very important to look at how the work environment to form innovative features among SME employees.

2. WORK ENVIRONMENT

Noe et al. (2002) refers to the atmosphere of the work environment for the transfer, management support, support of colleagues, the opportunity to use the capacity that they have learned and technology support. There are two categories of environmental factors associated with work-related organization (Tasse and Mohamed (2002). Factors associated with work are work neediest, opportunity, pressure groups and norms, equality context, supervisor support and intervention work. Factors associated with the organization are positive reinforcement, culture and organizational climate (Tasse and Mohamed, 2002).

Amabile et al. (2005) states that encouraged the organization are an important aspect of the work environment for innovation. These include incentives to take risks and to assess the highest levels of innovation, fair valuation and supporting ideas, rewards and

recognition for innovation, collaboration ideas flow throughout the organization and participation of management and decision making. This is supported by Janssen (2003) which states that a work environment that supports and stimulates increased idea generation and innovation (Janssen, 2003). There are many other sources that contribute to providing a work environment that supports and stimulates, among others, are practice management support and leadership, evaluation and constructive feedback, support and stimulate colleagues.

Consequently, work environment factors highlighted in this paper include leadership, empowerment, reward, facilities, risk takers and firm size. These factors are an important background to creativity and innovation. As a result, the changing environment has caused a lot of research has been done to make organizations more flexible, adaptive, entrepreneurial and innovative way to meet the demands of today (Orchard 1998; Valle 1999; Parker and Bradley 2000).

3. INNOVATIVE WORK BEHAVIOUR

Innovative work behaviour in the world organization is a process that produces a change in the form of products, processes, or procedures that are new to an organization (Ahmad, 2009). Damanpour (1991) defines innovative work behaviour as a generation, development, and implementation of new ideas or behaviours that could be a new product or service, the new product, a new structure or administrative system, as well as a new work program for the members of the organization. According to Carmeli et al. (2006) innovative work behaviour is not only a purpose to inspire new ideas, but also to introduce and apply the ideas and connect with all things designed to improve the performance of the enterprise. There are various dimensions of innovative behaviour are distinguished in previous studies. Scott and Bruce (1994) and Janssen

(2000) states the innovative behaviour is often associated with the phases of the innovation process. Kanter (1988) outlines the three-dimensional behaviour of the generation of ideas, build coalitions and implementation. Kleysen and Street (2001) were divided into five dimensions, namely, exploration opportunities, idea generation, formative investigation, championing and implementation. While De Jong and Den Hartog (2010) categorize the four dimensions of innovative behaviour, namely the opportunity exploration, idea generation, championing and implementation. Therefore, innovative work behaviour in this study is the exploration of the idea of starting and ending with the implementation of the idea as the basis for organizational innovation and this behaviour led to the sustainability and effectiveness of individuals, groups or organizations.

4. METHODOLOGY

This study focused on production employee micro and small scale enterprises in the manufacturing sector in the three selected cities in Malaysia, i.e.; Kuantan, Pahang, Kuala Terengganu, Terengganu and Kota Bharu, Kelantan. Data were collected through questionnaires given to the company management to be completed by the employees of the company. A total of 254 production employees was sampled and only 92.5 percent (235 employees) provides complete feedback. Next, a descriptive analysis is used to give the background of the respondents, the dimensions of innovative work behaviour and work environment. The regression tests are used to see the influence work environment on the formation of innovative work behaviour.

5. RESULTS AND DISCUSSION

5.1 Background of Respondents

Table 1 shows the background of the respondents. The analysis found that 45.9 percent of male and 54.1 percent of female employees who participated in this study. The majority of respondents were male employees in Kuantan (56.3%) and Kuala Terengganu (52.9%). While in Kota Bharu (64.2%) where female employees more involved in this study.

In terms of age, the study found that the minimum age is 17 years while the maximum is 66 years old with a mean of 34 years. In detail it was found that employees aged less than 25 year high in Kota Bharu (40.4%) than Kuala Terengganu (7.7%) and Kuantan (23.1%). For ages 26 to 35 years were found to be as much as 40 percent in Kuantan and 44.2 percent in Kuala Terengganu. Next, for employees aged 36 to 45 years around 20 percent in Kuantan and Kota Bharu except Kuala Terengganu (13.5%). The study found that employees aged 46 to 55-year higher in Kuala Terengganu (21.1%) than Kota Bharu (15.6%). However, it was found that employees over the age of 56 years, the highest in Kuala Terengganu (13.5%). Overall, the majority of employees aged 26 to 35 years (32.3%). This was followed by employees aged less than 25 years (27.9%). The study found that only 3.5 percent of employees over the age of 56 years and is the lowest percentage.

In terms of work experience were found most employees minimum work experience is six months, while the maximum is 52 years old with an average total of 9 years. Found that employees with less than one year experience are as much as 20 percent in Kuantan relatively higher than Kuala Terengganu (13.5%) and Kota Baharu (13.3%). While employees with experience from 2 to 4 years old were found in Kota Bharu highest (37.3%) and was followed Kuala Terengganu (27%) and Kuantan (24%). The study also found that 34 percent of employees in Kuantan have more than 11 years while in Kuala Terengganu by 24.3 percent and 27.7 percent in Kota Bharu. Overall, it was found that work experience of over

11 years is the highest percentage (28.8%) and 47.7 percent experienced 2 to 7 years.

Table 1: Summary of respondents' background

		Kuantan		Kuala Terengganu		Kota Bharu		Overall	
		No.	Percent (%)	No.	Percent (%)	No.	Percent (%)	No.	Percent (%)
Gender	Male	40	56.3	27	52.9	39	35.8	106	45.9
	Female	31	43.7	24	47.1	70	64.2	125	54.1
	Total	71	100	51	100	109	100	231	100
Age	< 25 years	15	23.1	4	7.7	44	40.4	63	27.9
	26 - 35 years	26	40	23	44.2	24	22	73	32.3
	36 - 45 years	14	21.5	7	13.5	23	21.1	44	19.5
	46 - 55 years	10	15.4	11	21.1	17	15.6	38	16.8
	> 56 years	0	0	7	13.5	1	0.9	8	3.5
	Total	65	100	52	100	109	100	226	100
Work Experience	Less than 1 year	10	20	5	13.5	11	13.3	26	15.3
	2-4 years	12	24	10	27	31	37.3	53	31.2
	5-7 years	7	14	7	18.9	14	16.9	28	16.5
	8-10 years	4	8	6	16.2	4	4.8	14	8.2
	More than 11 years	17	34	9	24.3	23	27.7	49	28.8
	Total	50	100	37	100	83	100	170	100

*Note: 4 people do not answer gender, 9 for age, and 65 for work experience.

Mean (age): 34.27, SD = 11.77

Mean (Work Experience): 8.86, SD = 9:51

Source: Field Study (2013)

Next, Table 2 shows the distribution of employees by industry in micro and small enterprises in the three cities. Found that an employees working in the food and beverage industry in Kota Bharu are the highest (75.8%) in small enterprises. While employees employed in the textile and clothing industry in Kuala Terengganu are the highest (24.3%) in small enterprises. Similarly, for employees employed in the wood industry, furniture and crafts in Kuala Terengganu are the highest (29.7%) in small

enterprises. Next, for the chemical and pharmaceutical industries are Kuantan recorded the highest percentage (25%) in micro enterprises. The study also found that an employee working in the electrical, electronics and machinery in Kota Bharu is the highest (16.7%) in micro enterprises. As for the employees who work in non-metallic mineral products industry, basic metal and other manufacturing in Kuala Terengganu is the highest (37.5%) for micro enterprises. Overall, it was found that the majority (55.3%) of employees

working in the food and beverage industry compared to other industries.

Table 2: Distribution of Employees by industry in three selected cities

Industry	Micro			Small			Overall
	Kuantan	Kuala Terengganu	Kota Bharu	Total	Kuantan	Kuala Terengganu	
Food and beverage	3 (25%)	10 (62.5%)	10 (83.3)	23 (57.5%)	20 (33.9%)	12 (32.4%)	75 (75.8%)
Textiles and clothing	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (8.5%)	9 (24.3%)	5 (5.1%)
Wood, furniture and crafts	3 (25%)	0 (0%)	0 (0%)	3 (7.5%)	15 (25.4%)	11 (29.7%)	9 (9.1%)
Chemicals and pharmaceuticals	3 (25%)	0 (0%)	0 (0%)	3 (7.5%)	9 (15.3%)	0 (0%)	10 (10.1%)
Electricity, electronics and machinery	0 (0%)	0 (0%)	2 (16.7)	2 (5%)	7 (11.9%)	0 (0%)	0 (0%)
Non-metallic mineral products, basic metals and other	3 (23%)	6 (37.5%)	0 (0%)	9 (22.5%)	3 (5.1%)	5 (13.5%)	0 (0%)
Total	12 (100%)	16 (100%)	12 (100%)	40 (100%)	59 (100%)	37 (100%)	99 (100%)

Source: Field Study (2013)

5.2 Level of Work Environment and Innovative Work Behaviour

The result in Table 3 shows the mean and standard deviation of the work environment and innovative work behaviour by an employee of the SMEs in the three cities. The analysis found that the work environment is at a high level ($M = 3.69$, $SD = 0.602$). Findings showed leadership ($M = 3.80$, $SD = 0.747$) and empowerment ($M = 3.81$, $SD = 0.651$) also are at high level. Instead, reward and recognition ($M = 3.64$, $SD = 0.843$), facilities ($M = 3.55$, $SD = 0.748$) and risk takers ($M = 3.59$, $SD = 0.922$) at a moderate level. These findings suggest that although the stimulus leadership and empowerment is high, but the rewards and

recognition, facilities and risk takers who are at moderate level of concern. This is because all three of these aspects are also important for establishing innovative work behaviour. These findings suggest that employees need a more calm, cheerful and comfortable to enable them to discharge their duties fully committed. The atmosphere is noisy workplace, office layout uncluttered and managers who often insults bring pressure to employees. In fact, financial incentives and awards will also influence the motivation to work.

Further, the analysis found that innovative work behaviour for exploration dimensions are at high level ($M = 3.71$, $SD = 1.01$). While innovative work behaviour for idea generation

dimension is moderate ($M = 3.58$, $SD = 1.18$). Similarly, for the investigation formative dimension ($M = 3.32$, $SD = 1.258$), champion the idea ($M = 3.32$, $SD = 1.27$) and implementation ideas ($M = 3.32$, $SD = 1.21$) were at a moderate level. Overall, the innovative work behaviour of employees of micro and small scale companies is still at a moderate level ($M = 3.43$, $SD = 1.10$). Four-dimensional of innovative work behaviour is still at a moderate level. While only just high-

dimensional exploration of items which include efforts to explore new ideas related to daily tasks and finding alternative techniques to improve matters related tasks in the company. According to Jong (2007) all the dimensions of innovative work behaviour (exploration of ideas, idea generation, formative investigation, championing and implemented ideas) contributed to constructing innovative work behavior.

Table 3: Level of work environment and innovative work behaviour

Variable	Mean	Std. Deviation	Level
<i>Work Environment</i>			
Leadership	3.80	0.747	High
Empowerment	3.81	0.651	High
Reward	3.64	0.843	Medium
Facility	3.55	0.748	Medium
Risk Taking	3.59	0.922	Medium
Overall	3.69	0.602	High
<i>Innovative Work Behaviour</i>			
Opportunity exploration	3.71	1.011	High
Idea generation	3.58	1.181	Medium
Formative investigation	3.32	1.258	Medium
Championing	3.32	1.266	Medium
Implementation	3.32	1.207	Medium
Overall	3.43	1.100	Medium

Mean Classification; 1:00 to 2:32 = Low, Medium = 2.33-3.66, 3.67-5.00 = High

Source: Field Study (2013)

5.3 The Influence of Work Environment on Innovative Work Behaviour

According to Williams (2001) management support for innovation has the potential to influence the work environment. The support from manager caused an employee's ideas are more likely to be implemented (Axtell et al. 2000). As categorized by Tasse and Mohamed (2002), a work-related environmental factors (e.g. facilities, risk taking) and related organizations (e.g. Leadership, empowerment, rewards) is important to support and enhance the generation

of ideas and innovation (Janssen, 2003). Results regression analysis between the attributes of the work environment as a whole indicates that this attribute is significant in determining the innovative work behaviour. This is shown in Table 4 in which the R-square is 0.356, which means this model explains 35.6% variance in innovative work behaviour.

The findings also show that leadership ($\beta = .413$, $p < 0.01$) were significantly related to innovative work behaviour. This means that the stimulus leadership by the manager of the company to employees of SMEs will increase the

ability of innovative work behaviour. According to Amabile (1998), leader of the organization to help determine and shape work contexts that contribute to organizational innovation and there is evidence that an individual's leadership style is an important determinant of innovation (Hakuji and Picken, 2000) transformational leadership in particular. For example, studies Elenkov and Manev (2005) performed on 270 managers in 12 countries in Europe proves that the leader or manager positively influence the process of innovation within the organization. Their study is consistent with research conducted by Henry (2001), Howell and Higgins (1990) and West et al. (2003). Through transformational leadership, managers can help build a strong organizational culture and contribute to a positive climate for organizational innovation and ultimately influence innovative behaviour (Elenkov and Manev, 2005; Jung et al., 2003).

Nevertheless, the discovery finds empowerment ($\beta = .104$, $p > 0.05$) were not significantly related to innovative work behaviour. This suggests that empowerment does not have an influence on the creation of innovative work behaviour. This finding is contrary to the study Spreitzer (1995) found that empowerment plays an intermediary role between innovative behaviour. This is so because the empowerment benefits as a result of behaviour flexibility and creative work (Thomas and Velthouse, 1990).

According to Eisenberg and Cameron's (1996) positive rewards affect the implementation phase of the innovation process at the individual level. The reward system was created in response to the efforts and the work performed by the employee. This is because the success of a goal often associated with reward offered if the goal is achieved (Ahmad Atory Hussain, 1996). Nevertheless, the findings showed benefit ($\beta = -.017$ $p > 0.05$) did not significantly related to innovative work behaviour. These findings suggest that the reward does not have influence

with innovative work behaviour. This finding is contrary to Ivana et al. (2009) stating that rewards innovation support in any behaviour that requires a reward will motivate employees to repeat the offense. According to Glasberg and Ouerghemi (2011) with rewards, organizations can boost employee behaviour and achieve desired results. This is because the reward system in a company is not only to motivate employees, but also to control the outcome. Therefore, the reward system may be one of the factors that stimulate innovation within the company.

Further, the discovery of facilities ($\beta = .236$, $p < 0.05$) was significantly related to innovative work behaviour. According to Osborne and Gruneberg (1983) the role of the physical work environment affects achievement, satisfaction and health. Riggio and Porter (1990) further added that the factors that could have an impact on employee behaviour is the physical condition of the work environment, including lighting, noise levels, pollution, aesthetics, music and jewelry. This is because employees pay attention to the work environment for personal comfort and the completion of a work (Robbins et al. 1994).

The findings also showed a risk taker ($\beta = .175$, $p < 0.01$) were significantly related to innovative work behaviour. This suggests a positive relationship because of the risk readiness given by the company to employees of SMEs will increase the ability of innovative work behaviour. These findings suggest that the innovative work behaviour being the result of individual risk-taking. These findings are consistent with studies Rhee et al. (2010) which states that if the learning has the potential to be large enough to affect behaviour, the tendency to be proactive and take risks can be developed to stimulate the innovative capacity of the firm.

Even the findings also found firm size ($\beta = .387$, $p < 0.01$) have significant influence on innovative work behaviour. This finding suggests that the larger the relative size of the SMEs more

innovative. This suggests a positive relationship to the size of the SMEs enhance employee innovative work behaviour. These findings are consistent with studies of Harris et al. (2003) which state that a relatively large company more likely to innovate.

Overall, the findings show that the work environment showed significant influence on innovative work behaviour, even empowerment and rewards attributes that do not affect the

behaviour of innovative work. Thus, the findings of this study support the hypothesis that assumes that the work environment has a significant influence on the formation of innovative work behaviour. This finding corresponds with the opinion submitted by Robbins et al. (1994). They explained that the employees give attention to the work environment for personal comfort as well as the effect such a work.

Table 4: Standard multiple regression between work environment and innovative work behaviour

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
.597	.356	.339	.77802	20.998	.000

Note: a Dependent Variable: innovative work behaviour

Source: Field Study (2013)

Table 5: Coefficients between work environment and innovative work behaviour

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.197	.344		-.572	.568
Leadership	.413	.099	.323	4.193	.000***
Empowerment	.104	.117	.070	.884	.378
Reward	-.017	.085	-.015	-.204	.839
Facility	.236	.101	.184	2.336	.020**
Risk Taking	.175	.060	.168	2.904	.004***
Firm size	.387	.140	.152	2.761	.006***

Significant * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$

Source: Field Study (2013)

6. CONCLUSION

Overall, the results showed that a high reaction given by the employee to the work environment, but the level of conduct innovative work is still at a moderate level. While the results of regression analysis showed leadership, facilities, risk and firm size affect the formation of innovative work

behaviour. This proves that the work environment is very important to every individual that works. Employees who are satisfied with their workplace environment will be more productive and provide a strong commitment to the job. This in turn encourages them to innovate. Thus, management of SMEs has to be prepared and examined the needs of the organization in order to provide a

work environment that helps employees to innovate. Therefore, the findings of this study may be different if the study conducted in other organizations, and involve a larger number of respondents. Future research should examine in greater depth the existing components by using different analytical methods in studying of innovative work behaviour.

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